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EXAMINER

LOEWE, ROBERT S

ART UNIT

PAPER NUMBER

1796

NOTIFICATION DATE

DELIVERY MODE

03/17/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patents.admin@dowcorning.com

Office Action Summary

Application No.

10/568,512

Applicant(s)

HORSTMAN ET AL.

Examiner

ROBERT LOEWE

Art Unit

1796

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-32 and 34 is/are rejected.
- 7) ☒ Claim(s) 33 and 35 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/S5108)
Paper No(s)/Mail Date 2/15/06
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

Applicant is advised that should claim 22 be found allowable, claim 21 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 19, 20, 23, 25, 26, 28, 31 and 32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, each of these claims recite the limitation "typical value" for a, b, c, and d. Such a limitation is indefinite since typical does not clearly define the numerical ranges for units (i), (ii), (iii) and (iv) of the instant claims. A simple remedy to overcome this rejection would be to remove "typical" in all instances, thus removing any indefiniteness.

Claim 28 is further rejected since it is dependent from a canceled claim. For purposes of further examination, claim 28 will be interpreted as being dependent from claim 27

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 17, 18, 20, 24 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Harrod (US Pat. 3,410,820).

Example 7 of Harrod teaches the preparation of a carbinol-containing silicone resin via platinum-mediated hydrosilylation of a hydride-containing silicone resin with 2-allylphenol. The resin product of example 7 satisfies the values for a, b, c, and d for claim 17. The carbinol group has the formula $-(CH_2)_3C_6H_4OH$ which satisfies instant claim 18. The resin of example 7 comprises $-(C_6H_5SiO_{3/2})$ units and $(CH_3)_2(CH_2)_3C_6H_4OH$ units which satisfies instant claim 20. Because Harrod teaches the same method as claimed in claim 24, the resin structure of example 7 also satisfies instant claims 24 and 26. Regarding the wt% of phenyl groups in the resin of example 7, a person having ordinary skill in the art can readily determine this as follows:

1) Normalize the units of the silicone resin in example 7 of Harrod to equal 1:

$$(0.24 + 0.4 + 0.72 = 1.36)$$

$$1/1.36 = 0.735$$

$$0.735 * 0.24 = 0.18 \text{ of phenylsiloxy T unit}$$

$$0.735 * 0.4 = 0.29 \text{ of dimethylsiloxy D unit}$$

$$0.735 * 0.72 = 0.53 \text{ of dimethyl,hydroxyphenylpropylsiloxy M unit}$$

As can be seen, the value of b is 0.29, which satisfies the proviso that the value of b be less than 0.3 when all the R^2 groups are methyl.

2) Calculate the wt%:

$0.18 \times 1 \text{ phenyl group} \times 77 \text{ g/mol} = 13.86$ (77 g/mol is the approximate weight of a phenyl group)

$0.29 \times 2 \text{ methyl groups} \times 15 \text{ g/mol} = 8.7$ (15 g/mol is the approximate weight of a methyl group)

$0.53 \times 2 \text{ methyl groups} \times 15 \text{ g/mol} = 15.9$

$0.53 \times 1 \text{ hydroxyphenylpropyl group} \times 135 \text{ g/mol} = 77.55$ (135 g/mol is the approximate weight of a hydroxyphenyl propyl group)

The total wt% of the groups is $13.86 + 8.7 + 15.9 + 77.55 = 110.01$, of which the wt% of the phenyl groups amounts to $13.86/110.01$, or approximately 13 wt%, which satisfies the proviso that the phenyl content be at least 10% by weight.

Claims 17, 18, 21 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Onishi et al. (US Pat. 4,822,716).

Example 36 of Onishi et al. teaches a silicone resin comprising hydroxyphenylalkyl groups, with the remaining groups being phenyl. Such a resin anticipates the limitations of instant claims 17, 18, 21 and 22.

Claims 29 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Sugiyama et al. (US Pat. 5,264,319).

Synthesis example 3.3 of Sugiyama et al. (20:27-21:17) prepares a silsesquioxane/T resin/a resin having only $\text{RSiO}_{3/2}$ groups having a hydroxyphenylmethylene group/carbinol group attached to silicon (formula XXVII). This structure anticipates the resin structures of instant claims 29 and 30. Sugiyama et al. teaches testing the solubility of the polymers prepared in the working examples (including the polymer of example 3.3) and teaches that these compounds are soluble in aqueous tetramethylammonium hydroxide. Tetramethylammonium hydroxide is a well-known surfactant. Therefore, Sugiyama et al. teaches components (a), (b) and (c) of instant claim 29.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 29 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forestier et al. (US Pat. 5,106,611) as evidenced by Ona et al. (US Pat. 4,614,675) and Lee et al. (US Pat. 4,032,502).

Claim 29: Forestier et al. teaches modified diorganopolysiloxanes as antioxidants in cosmetics (abstract). The polysiloxane structures are taught to have carbinol substituents (1:54-2:37). Forestier et al. further teaches that such modified diorganopolysiloxanes can be employed in cosmetic compositions as oil-in-water or water-in-oil emulsions (6:55-57) and further teaches that emollients/surfactants may be added as well (6:50-51). While the organopolysiloxanes taught by Forestier et al. are taught to be linear in structures (only M and D units are present). However, as evidenced by Ona et al. and Lee et al., commercially available polysiloxanes frequently contain trace amounts of branching; such branching would create a small amount of T units within the polymers. Instant claim 29 only requires c to be greater than 0, which includes trace amounts. Therefore, only a trace amount of T units needs to be present in the polysiloxanes taught by Forestier et al. such that the limitations of instant claim 29 are satisfied.

Claim 34: Forestier et al. further teaches the addition of active substances such as vitamin A (6:44).

Claims 19 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harrod (US Pat. 3,410,820) as applied to claims 17 and 24, respectively.

Claims 19 and 25: While Harrod does not explicitly teach a silicon resin which anticipates the structural limitations of instant claims 19 and 25, such resins are believed to be

rendered obvious based on the teachings of Harrod. Specifically, Harrod teaches copolymeric organosiloxanes having the formula at 9:30 (claim 1). Such a formula suggests to a person having ordinary skill in the art to employ silicone resins having M, D and T units in amounts which would satisfy the ranges for a, b and c of instant claims 19 and 25.

Claims 21-23, 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harrod (US Pat. 3,410,820) in view of Yoshino et al. (US Pat. 6,806,509).

Claims 21-23 and 27: Harrod teaches a silicone resin (example 7) having phenyl groups. The phenyl group content of the resin in example 7 is calculated to be approximately 13% by weight, based on 100 wt% of all of the substituents in the silicone resin. While Harrod does not explicitly teach a silicone resin having a phenyl group content of at least 25% as required by instant claims 21 and 22 or at least 30% as required by instant claim 27, Yoshino et al. teaches silicone resinous compositions useful as encapsulating materials (abstract). Yoshino et al. further teaches that it is advantageous to incorporate up to 80 mol% of phenyl groups in the silicone polymers. Harrod and Yoshino are combinable because they are from the same field of endeavor, namely, silicone-based encapsulating compositions. It is noted that incorporation of phenyl groups gives high refractive index cured compositions, which is a desirable property in silicone encapsulants (3:56-65 and 8:26-40). The silicone resins taught by Harrod are taught to be useful as encapsulating materials, therefore a person having ordinary skill in the art would appreciate and be motivated to incorporate a high phenyl group content.

Claim 28: While Harrod does not explicitly teach a silicon resin which anticipates the structural limitations of instant claim 28, such resins are believed to be rendered obvious based

on the teachings of Harrod. Specifically, Harrod teaches copolymeric organosiloxanes having the formula at 9:30 (claim 1). Such a formula suggests to a person having ordinary skill in the art to employ silicone resins having M, D and T units in amounts which would satisfy the ranges for a, b and c of instant claim 28.

Relevant Art Cited

The prior art made of record and not relied upon but is considered pertinent to applicants disclosure can be found on the attached PTO-892 form.

Allowable Subject Matter

Claims 33 and 35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Specifically, Harrod et al. can not be relied upon as an anticipatory or obviousness-type reference for independent claim 29. Harrod et al. teaches reacting the hydroxyphenyl-substituted resins to form polyphenylene oxide. There would be no incentive to a person having ordinary skill in the art to add a surfactant and water to the resins taught by Harrod et al. Onishi et al. teaches hydroxyphenyl substituted silicone resins as materials for photoresists. Based on the field of endeavor, a person having ordinary skill in the art would not have any reason to add a surfactant and water to the resins as taught by Onishi et al. Sugiyama et al. does not teach or suggest silicone resins having greater than 10% of the groups be phenyl. Forestier et al. teaches linear polysiloxanes which would only have a trace

amount of branching. As such, Forestier et al. cannot be relied upon to satisfy the c content of the silicone resins as required by some of the claims.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Loewe whose telephone number is (571) 270-3298. The examiner can normally be reached on Monday through Friday from 5:30 AM to 3:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. L./
Examiner, Art Unit 1796
13-Mar-09

Application/Control Number: 10/568,512

Page 10

Art Unit: 1796

/Randy Gulakowski/

Supervisory Patent Examiner, Art Unit 1796